point. From my observation of these cases it appears to me that it is multiple in origin. The one point in the etiology is that I have found the majority of cases to be very large eaters and usually eat a good many slices of bread at a meal. This has impressed me with the importance of limiting the bread eaten. The treatment which I use is the same that has been employed for many years. The giving of the purge, a mild chloride following saline, repeating this every other day for two or three weeks and then using cascara preparations.

Dr. C. M. Cooper, San Francisco: I desire to emphasize the frequency with which attacks of mucus colitis are diagnosed and perhaps operated upon as cases of chronic appendicitis, chronic cholecystitis and allied conditions. The clinical picture presented by these patients is very instructive, the skin and subcutaneous tissues are exceedingly sensitive during an exacerbation of the attack, the muscles of the abdominal wall present no rigidity, the edge of the intestine can be felt as a flesh rod in part or along its whole course and when rolled under the finger is extremely sensitive. If the sigmoidoscope be used the rectal mucous membrane is seen puffed up and markedly congested and not infrequently semi-gelatinous mucus runs into the barrel of the instrument. In these cases we should always ask ourselves certain questions: 1st, Does this colitis depend upon an abnormal gastric secretion? 2nd, Is it merely the expression of a tumor growth within the colon? 3rd, Is there associated with it some inflammation of the appendix or of the gallbladder? A great number of such cases occur in people with a ptosis of the large gut and I would draw attention to the beautiful X-ray plates exhibited by Dr. Painter, which show you that the colon can be mapped out in its entire course, and I would emphasize what these X-ray plates demonstrate, namely, that the transverse colon may hang down within the pelvic cavity, the hepatic and the splenic flexures may be considered prolapsed and yet the food may pass through the whole alimentary canal within the normal time. In other words an abnormal anatomical position of the gut is no proof whatsoever that it is not carrying out its physical function in a serviceable manner. Such an enteroptosis may be associated with gall bladder trouble as I attempted to draw attention in discussing Dr. Lobingier's paper, and thus it is that many patients with mucus colitis suffer from gallbladder infections and from apparently gallbladder colic.

Doctor Dudley Fulton, Los Angeles: At the beginning of my paper I excluded certain types of the disease, such as Dr. Schmoll has referred to, in which there is an implication of the upper alimentary tract. It would be impossible to discuss all of the conditions in which mucus is excreted from the bowel, in the time allowed for the reading of papers. My experience has taught me that if I can cure constipation I can cure nearly all of these cases of colitis. To some of the gentlemen it seems to be a very easy matter to cure constipation, but I think it is very difficult. By curing constipation I mean getting the bowels in such condition that they will move regularly without any other assistance than the diet. It is one of the most complicated conditions which I am called upon to treat. In one case you will find that there is an ulceration of the rectum, in another hemorrhoids, in another a prolapsed kidney and in another a displaced uterus. We have to eliminate all these conditions and they are multiple. Then there are conditions of metabolism which have to be worked out, as Dr. Wilbur has entered into them. With regard to the using of the lactic preparations, I have not found them satisfactory. I emphasize the fact that if you will tell me how to cure constipation I will tell you how to cure colitis.

A PHASE OF UNEQUAL INSPIRATORY MURMUR.*

By T. C. EDWARDS. M. D., Salinas.

I wish to call your attention to what I might term an accentuation of the inspiratory murmur which is synchronous with the action of the heart.

To be more definite, in making a physical examination of the chest we frequently note the following: As inspiration proceeds, we notice a rythmic rise in the pitch and intensity of the inspiratory murmur, and this accentuation of the inspiratory sound accompanies each cardiac systole.

The frequency with which it is heard in certain pathological conditions, viz: tuberculosis, leads me to suspect that it may be of use (at least when coupled with other symptoms), in determining early infiltration of the connective tissue near the alveoli. All sound is based upon physical conditions and with unvarying physical conditions we must have invariably the same sound. Auscultation is a means of determining the physical condition of the lung, and unless our examination is based upon a fairly accurate idea of the physics of a sound it is of questionable utility. The object of auscultation then is to get a definite idea, expressed in physical terms, of the anatomical condition of the organ examined.

I realize the difficulty in the way of doing this when dealing with a subject of such complex and varying composition as the human body in health and disease. Notwithstanding the difficulty of the problem, we must depend upon our knowledge of the physics of sound to give us the necessary data for making deductions which will be of any scientific value.

We are endeavoring to learn the texture of the lung tissue. Physicists tell us that we have sound wherever we have a fluid vein, and that a fluid vein is produced when a liquid passes from a smaller to a larger cavity.

Arnold in his articles on the "Physics of Physical Signs" says, that the respiratory sounds are produced in two places, viz: at the glottis and in the air cells. Some writers claim that there is no sound produced in the air cells, but that it is all produced at the upper end of the respiratory tract.

It seems to me that the sound under consideration is undoubtedly produced in the air cells. The fact that this sound is heard with each cardiac impulse would lead us to consider the heart as a causative factor in its production. It seems self-evident, that a sound which occurs in perfect rythm with each heartbeat, must, in some way, be influenced by its action. By keeping in mind the anatomy of the lung and its relation to the heart, we will remember that we have an air tree, trunk up and branches down, and the heart is situated between the principal branches.

With each cardiac contraction, the heart raises itself and comes with more or less force against this tree at, or near, its bifurcation. With this impact against the air tree there is a slight retarding of the air current above the point of contact and a hasten-

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

ing of the rate of the air current beyond the point of impact. This action of the heart could not then increase or accentuate any sound at the glottis, for it has a tendency to check the inflowing air at that point and consequently by just so much lessens the sound.

Beyond the point of impact, however, the reverse holds true. By increasing the rate of the air current it is thrown into greater vibration as it enters the air cells. Here then we must look for this sound, and our experience teaches us that we have traced it to its source for we never hear it over the trachea or upper air passages, but always over the lung proper.

The question then arises why this sound is heard sometimes and not at others; what physical change has taken place which renders this sound audible; why audible over one portion of the lung and not over another? There must be a physical explanation. The fact that it is heard over one portion of the lung and not over another is evidence that there must be a local condition in one portion differing from the conditions in another portion; and we further note that this is a local condition in the lung and does not depend on a forcible heart action as is claimed by some writers. This is made evident because we have cases of cardiac hypertrophy in which we note none of this sound even immediately over the heart. What conditions at, or near, the air cells could be causative factors?

Arnold says "the real aim of auscultation of the respiratory murmur is to learn the texture of the lung tissue." Again he says "let the lung tissue be slightly thickened as in early tuberculosis and there is a better conduction of vibrations through it."

Pathologists tell us that this early thickening of the lung tissue in tuberculosis occurs where the bronchiole enters the cell, the point where the vesicular murmur is produced. This thickening sometimes encroaches on the bronchiole adding another element in the production of a cell murmur. Here then we have a double reason why we might have this sound. As the heart forces the air in jets into the air cell through this bronchiole surrounded with a thickened connective tissue it increases the vibrations and at the same time presents a better conductor by the consolidation at this point. We can thus understand why we hear this sound on the surface of the chest. It seems to me that this is the only satisfactory explanation we can make which is based upon the physics of sound, and any explanation which does not satisfy the physicist cannot claim to be scientific.

It is a fact that this accentuation of the inspiratory sound is a common, I might say almost constant, accompaniment of advanced tuberculosis whether such invasion be near or remote from the heart. In this case it has pathologic significance.

The question I would ask is: May we not have in this sound an important, delicate means of determining a thickening of the lung tissue in early tuberculosis?

SOME CONSERVATIVE SURGICAL PROCEDURES FOR PROTECTING AND PRESERVING PELVIC ORGANS.*

By J. H. SAMPSON, M. D., San Jose.

I shall not attempt to go into the history and transitional evolution of pelvic surgery, as neither the time allotted by the section, nor the writer, permits of our considering but a few practical features in pelvic displacements and their management.

Even with our present advancement in pelvic surgery these conditions are, I believe, occasionally receiving too radical attention. To have gained wisdom by one's mistakes, is usually an expensive measure; still the realization of much of our knowledge of surgery has been acquired through this process of dear experience, hence an expression of gratitude, in championing the ingenious ideas of another, may prove of more good service than to attempt something original, of less importance.

My earnest endeavor, therefore, will be to emphasize a few rational conservative measures, which have given me very gratifying results and which, I am afraid, are at times overlooked, even with favorable indications. How many of us who have watched the modifications and changes of technic in this field of work, who have not regretted that they could not recall a few years or may be less; not that there had been any serious mistake in diagnoses, but had the situation only been attacked through a different route, or by some other method of procedure. It is, however, with such experience that we may hope to attain the judgment, which I consider far more important to the conscientious surgeon, than is his knowledge of applied anatomy.

The construction of the pelvic organs, their circulatory distribution, anatomical relations, and their dependence upon each other for protection and support, combined with the amount of surgical interference and I may reasonably add abuse to which this field so tacitly submits, renders it particularly inviting for the exploit of original ideas.

It is not within the province of this paper to discuss the value of many of these ideas, suffice it to say that appeals of warning have long since gone forth from some of our foremost gynecologists suggesting that the brakes be applied in indiscriminate surgical procedures and strongly advocating a more careful consideration of ultimate results.

Considering the propriety and indications of hysterectomy. In his effort to arrest pathological processes through his mechanical skill, above all things, should the surgeon judiciously strive to assist nature in resuming her physiological functions; wherein this question of ultimate results deserves more consideration than the mere fact that a hysterectomy or pan hysterectomy has been successfully performed, with the recovery of the patient. Whenever such radical procedure is to be considered we must, by all means, also consider the importance of some of the commoner sequelæ following in the wake of hysterectomy, and weigh

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